

WE CLAIM:

- 1 1. A video coder, comprising:
 - 2 a pixel transposition circuit that receives blocks of
 - 3 image data, each block including image data of an array of
 - 4 pixels, said pixel transposition circuit transposing selected
 - 5 pixels on a boundary of a first block with selected boundary
 - 6 pixels of a plurality of blocks neighboring said first block,
 - 7 a transform circuit that generates coefficients
 - 8 representative of data of the transposed blocks, and
 - 9 a quantizer that scales the coefficients.
- 1 2. The video coder of claim 1, wherein the pixel
- 2 transposition circuit transposes alternate pixels along the
- 3 boundary of said first block with pixels from the neighboring
- 4 blocks adjacent to the alternate pixels in a transposition
- 5 direction.
- 1 3. The video coder of claim 2 wherein the transposition
- 2 direction is a diagonal direction, high-left to low-right.
- 1 4. The video coder of claim 2 wherein the transposition
- 2 direction is a diagonal direction, low-left to high-right.
- 1 5. The video coder of claim 2, wherein the transposition
- 2 direction is a vertical direction for pixels along a vertical
- 3 edge of the first block and a horizontal direction for pixels
- 4 along a horizontal edge of the first block.
- 1 6. A video decoder, comprising:
 - 2 a dequantizer that receives blocks of scaled coefficient
 - 3 information and reconstructing coefficients therefrom,

4 an inverse transform circuit that reconstructs blocks of
5 pixel data from the blocks of reconstructed coefficients, and
6 a pixel transposition circuit that transposes pixels on
7 a boundary of a first block with boundary pixels of a
8 plurality of blocks neighboring said first block and
9 generating blocks of image data for display.

1 7. The video decoder of claim 6, wherein the pixel
2 transposition circuit transposes alternate pixels along the
3 boundary of the first block with pixels from the neighboring
4 blocks adjacent to the alternate pixels in a transposition
5 direction.

1 8. The video decoder of claim 7, wherein the transposition
2 direction is a diagonal direction, high-left to low-right.

1 9. The video decoder of claim 7, wherein the transposition
2 direction is a diagonal direction, low-left to high-right.

1 10. The video decoder of claim 7, wherein the transposition
2 direction is a vertical direction for pixels along a vertical
3 edge of the first block and a horizontal direction for pixels
4 along a horizontal edge of the first block.

1 11. A method of encoding image data, comprising the steps
2 of:

3 receiving blocks of image data, each block including
4 data for an array of pixels,
5 transposing selected pixels on a boundary edge of a
6 first block with selected pixels from a plurality of blocks
7 neighboring said first block,

8 transforming pixel data of the blocks from the step
9 transposing to coefficients, and
10 scaling the transformed blocks.

1 12. The method of claim 11, wherein the transposition step
2 includes transposing alternate pixels along the boundary of
3 the first block with pixels from the neighboring blocks
4 adjacent to the alternate pixels in a transposition
5 direction.

1 13. The method of claim 12, further comprising a step of
2 generating a transposition keyword representative of the
3 transposition direction.

1 14. The method of claim 12, wherein the transposition
2 direction is a diagonal direction, high-left to low-right.

1 15. The method of claim 12, wherein the transposition
2 direction is a diagonal direction, low-left to high-right.

1 16. The method of claim 12, wherein the transposition
2 direction is a vertical direction for pixels along a vertical
3 edge of the first block and a horizontal direction for pixels
4 along a horizontal edge of the first block.

1 17. A method of decoding blocks of encoded image data,
2 comprising the steps of:

3 scaling the coded blocks to obtain blocks of coefficient
4 data,
5 transforming the coefficient data of the blocks to pixel
6 data, and

7 transposing selected pixels on a boundary edge of a
8 first block with selected pixels from a plurality of blocks
9 neighboring said first block.

1 18. The method of claim 17, wherein the transposition step
2 transposes alternate pixels along the boundary of the first
3 block with pixels from the neighboring blocks adjacent to the
4 alternate pixels in a transposition direction.

1 19. The method of claim 18, further comprising a step of
2 receiving a transposition keyword that identifies a
3 transposition direction.

1 20. The method of claim 18, wherein the transposition
2 direction is a diagonal direction, high-left to low-right.

1 21. The method of claim 18, wherein the transposition
2 direction is a diagonal direction, low-left to high-right.

1 22. The method of claim 18, wherein the transposition
2 direction is a vertical direction for pixels along a vertical
3 edge of the first block and a horizontal direction for pixels
4 along a horizontal edge of the first block.

1 23. A bitstream generated by a process comprising the steps
2 of:

3 receiving blocks of image data, each block including
4 data for an array of pixels,
5 transposing selected pixels on a boundary edge of a
6 first block with selected pixels from blocks neighboring the
7 first block,

8 transforming pixel data of the transposed blocks to
9 coefficients, and
10 scaling the transformed blocks.

1 24. The method of claim 23, wherein the transposition step
2 includes a step of transposing alternate pixels along the
3 boundary of the first block with pixels from the neighboring
4 blocks adjacent to the alternate pixels in a transposition
5 direction.

1 25. The method of claim 24, further comprising a step of
2 generating a transposition keyword representative of the
3 transposition direction.

1 26. The method of claim 24, wherein the transposition
2 direction is a diagonal direction, high-left to low-right.

1 27. The method of claim 24, wherein the transposition
2 direction is a diagonal direction, low-left to high-right.

1 28. The method of claim 24, wherein the transposition
2 direction is a vertical direction for pixels along a vertical
3 edge of the first block and a horizontal direction for pixels
4 along a horizontal edge of the first block.